

AMENDMENTS TO THE CLAIMS

1. (CURRENTLY AMENDED) A method for representing a motion for two blocks, comprising the steps of:

(A) exchanging a group ~~particular value of a plurality of values~~ with a memory, said group comprising a parameter and up
5 to two of a plurality of motion vectors, said parameter having (i)
a first value which indicates that both of said blocks use an intra
prediction (ii) a second value which indicates that both of said
blocks use a list 0 prediction, (iii) a third value which indicates
that both of said blocks use a list 1 prediction and (iv) a fourth
10 value which indicates that both of said blocks use a bidirectional
prediction in which a first of said blocks uses both of said two
motion vectors and a second of said blocks uses both of said two
motion vector each of said values defining which of said two blocks
use which of a plurality of motion vectors based upon one of a
15 plurality of prediction types, wherein (i) said prediction types
include (i) a first prediction type of said two block using a first
reference picture list, (ii) a second prediction type of said two
blocks using a second reference picture list, (iii) a third
prediction type of said two blocks using a bidirectional prediction
20 and (iv) a fourth prediction type of said two blocks using an intra
prediction and (2) said exchanging includes at least one of reading
from said memory and writing to said memory; and

(B) representing said motion for said two blocks with a ~~said group comprising said particular value and up to all of said~~
25 ~~motion vectors~~, wherein said two blocks comprise two 4x4 blocks
within a single 8x8 quadrant of a macroblock coded using ~~use~~ a
macroblock adaptive field/frame coding.

2. (CURRENTLY AMENDED) The method according to claim 1,
wherein (i) said first block has a first of said motion vectors and
a second of said motion vectors and (ii) said group has at most one
of said first motion vector and said second motion vector a
5 ~~plurality of bits that is less than a maximum number of bits~~
~~capable of representing each unique possibility for said motion~~
~~vectors.~~

3. (CURRENTLY AMENDED) The method according to claim 1,
wherein a first plurality of said motion vectors corresponding to
said first block ~~a first of said two blocks~~ matches a second
plurality of said motion vectors corresponding to said second block
5 ~~a second of said two blocks.~~

4. (PREVIOUSLY PRESENTED) The method according to claim
3, further comprising the step of:

excluding said second plurality of said motion vectors
from said group.

5. (CURRENTLY AMENDED) The method according to claim 1, wherein (i) said group includes at most two of said motion vectors and (ii) said parameter comprises at most two bits.

6. (CURRENTLY AMENDED) The method according to claim 5, wherein said parameter ~~particular value~~ defines how many of said motion vectors are used by said first block ~~at least one of said two blocks.~~

7. (CANCELED).

8. (CURRENTLY AMENDED) The method according to claim 1, further comprising the step of:

using ~~a~~ said list 0 prediction ~~of said prediction types~~ with said motion vectors, wherein a first of said motion vectors is different than a second of said motion vectors ~~(i) said motion vectors comprise two motion vectors and (ii) each of said two motion vectors is used for a different one of said two blocks.~~

9. (CURRENTLY AMENDED) The method according to claim 1, further comprising the step of:

using ~~a~~ said list 1 prediction ~~of said prediction types~~ with said motion vectors, wherein a first of said motion vectors is different than a second of said motion vectors ~~(i) said motion~~

~~vectors comprise two motion vectors and (ii) each of said two motion vectors is used for a different one of said two blocks.~~

10. (CANCELED).

11. (CURRENTLY AMENDED) The method according to claim 1, ~~wherein step (B) comprises the sub-steps~~ further comprising the steps of:

generating said group with said parameter ~~particular~~
5 ~~value~~ while above a predetermined H.264 standard level for a bitstream conveying said macroblock ~~two macroblocks~~; and

generating said group ~~groups~~ without said parameter ~~particular value~~ while below said predetermined H.264 standard level for said bitstream.

12. (CURRENTLY AMENDED) The method according to claim 1, further comprising the steps of:

interpreting said motion vectors in said group based upon said parameter ~~particular value~~ while above a predetermined H.264
5 standard level for a bitstream conveying said macroblock ~~two macroblocks~~; and

using said motion vectors in said group independently of said parameter ~~particular value~~ while below said predetermined H.264 standard level for said bitstream.

13. (CURRENTLY AMENDED) An apparatus comprising:

a memory; and

a circuit configured to ~~(i)~~ exchange a group particular
value of a plurality of values with said memory, said group
5 comprising a parameter and up to two of a plurality of motion
vectors representing a motion of two blocks, said parameter having
(i) a first value which indicates that both of said blocks use an
intra prediction (ii) a second value which indicates that both of
said blocks use a list 0 prediction, (iii) a third value which
10 indicates that both of said blocks use a list 1 prediction and (iv)
a fourth value which indicates that both of said blocks use a
bidirectional prediction in which a first of said blocks uses both
of said two motion vectors and a second of said blocks uses both of
said two motion vector each of said values defining which of two
15 blocks use which of a plurality of motion vectors based upon one of
a plurality of prediction types and (ii) represent a motion for
said two blocks with a group comprising said particular value and
up to all of said motion vectors, wherein (1) said prediction types
include (a) a first prediction type of said two block using a first
20 reference picture list, (b) a second prediction type of said two
block using a second reference picture list, (iii) a third
prediction type of said two block using a bidirectional prediction
and (iv) a fourth prediction type of said two blocks using an intra

prediction, ~~(2) wherein (a) said exchange includes at least one of~~
25 a read from said memory and a write to said memory, ~~and (b) (3)~~
said two blocks comprise two 4x4 blocks within a single 8x8
quadrant of a macroblock coded using ~~use~~ a macroblock adaptive
field/frame coding.

14. (PREVIOUSLY PRESENTED) The apparatus according to
claim 13, wherein (i) a first of said blocks has a first of said
motion vectors and a second of said motion vectors and (ii) said
group has at most one of (a) said first motion vector and (b) said
5 second motion vector ~~a plurality of bits that is less than a~~
~~maximum number of bits representing every unique possibility for~~
~~said motion vectors.~~

15. (CURRENTLY AMENDED) The apparatus according to claim
13, wherein (i) said group includes at most two of said motion
vectors and (ii) said parameter comprises at most two bits.

16. (CURRENTLY AMENDED) The apparatus according to claim
15, wherein said parameter ~~particular value~~ defines how many of
said motion vectors are used by said first block ~~at least one of~~
~~said two blocks.~~

17. (CURRENTLY AMENDED) The apparatus according to claim 13, further comprising:

a coding circuit configured to ~~encode~~ insert said ~~parameter~~ particular value within a bitstream.

18. (CURRENTLY AMENDED) The apparatus according to claim 13, further comprising:

a ~~decoder~~ circuit configured to ~~decode~~ parse said ~~parameter~~ particular value from a bitstream.

19. (CANCELED).

20. (CURRENTLY AMENDED) An apparatus comprising:

means for storing a group; and

means for ~~(i)~~ exchanging said group ~~a particular value of a plurality of values~~ with said means for storing, said group comprising a parameter and up to two of a plurality of motion vectors representing a motion of two blocks, said parameter having (i) a first value which indicates that both of said blocks use an intra prediction (ii) a second value which indicates that both of said blocks use a list 0 prediction, (iii) a third value which indicates that both of said blocks use a list 1 prediction and (iv) a fourth value which indicates that both of said blocks use a bidirectional prediction in which a first of said blocks uses both

~~of said two motion vectors and a second of said blocks uses both of
said two motion vector, each of said values defining which of two
blocks use which of a plurality of motion vectors based upon one of
a plurality of prediction types and (ii) representing a motion for
said two blocks with a group comprising said particular value and
up to all of said motion vectors, wherein (1) said prediction types
include (a) a first prediction type of said two blocks using a
first reference picture list, (b) a second prediction type of said
two blocks using a second reference picture list, (c) a third
prediction type of said two blocks using a bidirectional prediction
and (d) a fourth prediction type of said two blocks using an intra
prediction, (2) wherein (a) said exchanging includes at least one
of reading from said means for storing and writing to said means
for storing and (b) (3) said two blocks comprise two 4x4 blocks
within a single 8x8 quadrant of a macroblock coded using use a
macroblock adaptive field/frame coding.~~

21. (CURRENTLY AMENDED) A method for representing a motion for two blocks, comprising the steps of:

(A) generating a representation for said motion for said two blocks, said representation having less than ~~a maximum number
of bits capable of representing each possible combination of four~~
motion vectors for said two blocks when in a bidirectional
prediction mode, wherein a first two of said four motion vectors

reference a first reference frame and a second two of said four motion vectors reference a second reference frame; and

10 (B) exchanging said representation with a memory, wherein (i) said exchanging includes at least one of reading from said memory and writing to said memory and (ii) said two blocks comprise two 4x4 blocks within a single 8x8 quadrant of a macroblock coded using ~~use~~ a macroblock adaptive field/frame
15 coding.

22. (CURRENTLY AMENDED) The method according to claim 21, wherein said representation comprises (i) a particular value of a plurality of values and (ii) up to ~~all~~ two of said four motion vectors

23. (CURRENTLY AMENDED) The method according to claim 21, wherein ~~said representation is configured to accommodate~~ (i) ~~a first number of possible vectors that could be expressed by~~ a first of said motion vectors corresponding to a first block of said two
5 blocks has one of a first number of possible vectors, (ii) ~~a second number of possible vectors that could be expressed by~~ a second of said motion vectors corresponding to said first block has one of a second number of possible vectors, (iii) ~~a third number of possible vectors that could be expressed by~~ a third of said motion vectors
10 corresponding to a second block of said two blocks has one of a

third number of possible vectors and (iv) ~~a fourth number of possible vectors that could be expressed by~~ a fourth of said motion vectors corresponding to said second block has one of a fourth number of possible vectors.

24. (CURRENTLY AMENDED) The method according to claim 23, wherein said ~~presentation is less than~~ representation utilizes less than a maximum number of bits, said maximum number of bits matching a base 2 logarithm of a product of said first number, said second number, said third number and said fourth number rounded up to a nearest integer.

25. (CURRENTLY AMENDED) The method according to claim 21, wherein said representation comprises at most ~~is capable of representing up to two of said four~~ motion vectors ~~corresponding to each of said two blocks,~~ each of said two motion vectors ~~corresponding to each of said two blocks~~ can take on at least 67,108,864 unique values, and said representation uses fewer than 104 bits.

26. (NEW) The method according to claim 21, wherein said representation comprises a parameter, said parameter having (i) a first value which indicates that both of said blocks use an intra prediction (ii) a second value which indicates that both of said

5 blocks use a list 0 prediction, (iii) a third value which indicates
that both of said blocks use a list 1 prediction and (iv) a fourth
value which indicates that both of said blocks use a bidirectional
prediction in which a first of said blocks uses a particular two of
said four motion vectors and a second of said blocks uses said
10 particular two of said four motion vectors.

27. (NEW) The method according to claim 26, wherein (i)
said representation includes at most two of said four motion
vectors and (iii) said parameter comprises at most two bits.

28. (NEW) The method according to claim 21, wherein (i)
a first of said blocks has a first of said four motion vectors and
a second of said four motion vectors and (ii) said representation
has at most one of (a) said first motion vector and (a) said second
5 motion vector.